

(PCT Article 36 and Rule 70)

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/EP2004/051337

Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language _____ which is the language of a translation furnished for the purposes of:
- ☐ international search (Rule 12.3 and 23.1(b))
- ☐ publication of the international application (Rule 12.4)
- ☐ international preliminary examination (Rule 55.2 and/or 55.3)
2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:
- ☐ the international application as originally filed/furnished
- ☒ the description:
- pages 1-4 _____ as originally filed/furnished
- pages* _____ received by this Authority on _____
- pages* _____ received by this Authority on _____
- ☒ the claims:
- nos. _____ as originally filed/furnished
- nos.* _____ as amended (together with any statement) under Article 19
- nos.* 1-7 _____ received by this Authority on 07.01.2005 with letter
- nos.* _____ received by this Authority on of 04.01.2005
- ☒ the drawings:
- sheets 1/2-2/2 _____ as originally filed/furnished
- sheets* _____ received by this Authority on _____
- sheets* _____ received by this Authority on _____
- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages _____
- ☐ the claims, nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (specify): _____
- ☐ any table(s) related to sequence listing (specify): _____
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages _____
- ☐ the claims, nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (specify): _____
- ☐ any table(s) related to sequence listing (specify): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

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Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement		
1. Statement			
Novelty (N)	Claims	<u>1-7</u>	YES
	Claims		NO
Inventive step (IS)	Claims	<u>1-7</u>	YES
	Claims		NO
Industrial applicability (IA)	Claims	<u>1-7</u>	YES
	Claims		NO
2. Citations and explanations (Rule 70.7)			
1. The application relates to a stator for an electrical machine, in particular, a machine that operates at a high temperature and is cooled by means of coolant circulation.			
2. In the present report, reference is made to the following documents:			
D1: US 4 908 347 A (DENK JOSEPH) 13 March 1990 (1990-03-13);			
D2: GB 2 145 882 A (TEIKOKU DENKI SEISAKUSHO KK) 3 April 1985 (1985-04-03);			
D3: US 5 519 269 A (LINDBERG FRANK A) 21 May 1996 (1996-05-21);			
D4: US 5 670 838 A (EVERTON JOHN M) 23 September 1997 (1997-09-23).			
3. The most relevant prior art is described in document D4, which discloses the features in the			

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preamble in claim 1, namely an electrical machine in which the stator cooling circuit is self-contained (it is not part of the rotor cooling circuit) and separated from the rotor cooling circuit by a sealed shell. The other documents also describe such a shell between the rotor and the stator.

4. The aim of the present application is to provide an electrical machine of this kind but one that has increased leakage inductance and slots deeper than necessary for housing the windings, while providing effective stator cooling.
5. This aim is achieved by providing a stator circuit consisting of two portions (7, 8) separated by the shell (9).

As a result, the stator winding is in a chamber while the stator magnetic circuit is, in fact, separated by means of the shell, and a portion thereof is in the other chamber where the rotor is also positioned.

6. None of the available prior art documents describes or suggests a solution of this kind. It follows that the subject matter of claim 1 is novel and involves an inventive step because it is the result of action performed so as to arrive at a desired result (PCT Article 33(2) and 33(3)).

7. Dependent claims 2 to 7 relate to alternative

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embodiments of the invention and, as a result, the subject matter therein is also novel and involves an inventive step.

8. The industrial applicability of the invention is obvious.

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Box No. VII Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

1. Contrary to the requirements of PCT Rule 5.1(a)(ii), the description does not indicate the relevant prior art disclosed in document D4, nor does it cite said document.
2. Contrary to the requirements of PCT Rule 5.1(a)(iii), the description is not consistent with the claims.